

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-20. (canceled)

21. (currently amended) An antimicrobial concentrate and instructions for mixing the concentrate with water;

wherein the concentrate comprises an antimicrobial solvent and antimicrobial agent;
the antimicrobial solvent comprising benzyl alcohol, ethylene glycol phenyl ether,
propylene glycol phenyl ether, propylene carbonate, phenoxyethanol, dimethyl malonate,
dimethyl succinate, diethyl succinate, dibutyl succinate, dimethyl glutarate, diethyl
glutarate, dibutyl glutarate, dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl
pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof;

the antimicrobial agent comprising halogen containing antimicrobial agent,
peroxycarboxylic acid, organic acidifying agent, or mixture thereof;

the amounts of antimicrobial solvent and antimicrobial agent in the concentrate being sufficient so that when the concentrate is mixed with water according to the instructions the resulting mixture will provide greater than a 1-log order reduction in population of bacteria or spores of *Bacillus cereus* within 10 seconds at 60° C.

22. (canceled)

23. (currently amended) The concentrate of claim ~~22~~ 21, wherein the halogen containing antimicrobial agent comprises hypochlorous acid, hypochlorous acid salt, chlorine dioxide, hypobromous acid, hypobromous acid salt, or interhalide.

24. (original) The concentrate of claim 23, wherein the interhalide comprises iodine monochloride, iodine dichloride, iodine trichloride, iodine tetrachloride, bromine chloride, iodine monobromide, iodine dibromide, or mixture thereof.

BEST AVAILABLE COPY

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

25. (currently amended) The concentrate of claim ~~22~~ 21, wherein the peroxy-carboxylic acid comprises peroxyacetic acid, peroxyformic acid, peroxyoctanoic acid, ester peroxy-carboxylic acid, salt thereof, or mixture thereof.

26. (currently amended) The concentrate of claim ~~22~~ 21, wherein the organic acidifying agent comprises aliphatic carboxylic acid, aromatic carboxylic acid, or mixture thereof.

27. (original) The concentrate of claim 26, wherein the carboxylic acid comprises formic acid, acetic acid, propionic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, benzoic acid, salicylic acid, salt thereof, or mixture thereof.

28. (canceled)

29. (currently amended) The concentrate of claim ~~28~~ 21, wherein the antimicrobial solvent comprises dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

30. (original) The concentrate of claim 21, further comprising diluting solvent.

31. (original) The concentrate of claim 21, wherein the composition also provides greater than 1-log order reduction in population of the mold *Chaetomium funicola* within 10 seconds at 60° C.

32. (currently amended) An antimicrobial composition comprising diluting solvent, antimicrobial solvent, and antimicrobial agent;[[,]]

the antimicrobial solvent comprising benzyl alcohol, ethylene glycol phenyl ether, propylene glycol phenyl ether, propylene carbonate, phenoxethanol, dimethyl malonate, dimethyl succinate, diethyl succinate, dibutyl succinate, dimethyl glutarate, diethyl

BEST AVAILABLE COPY

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

glutarate, dibutyl glutarate, dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof;
the antimicrobial agent comprising halogen containing antimicrobial agent,
peroxycarboxylic acid, organic acidifying agent, or mixture thereof;

wherein the ~~composition~~ antimicrobial solvent and antimicrobial agent are at concentration effective to provides greater than a 1-log order reduction in the population of bacteria or spores of *Bacillus cereus* within 10 seconds at 60° C.

33. (original) The composition of claim 32, wherein the diluting solvent comprises water.

34. (canceled)

35. (currently amended) The composition of claim 34 32, wherein the halogen containing antimicrobial agent comprises hypochlorous acid, hypochlorous acid salt, chlorine dioxide, hypobromous acid, hypobromous acid salt, or interhalide.

36. (original) The composition of claim 35, wherein the interhalide comprises iodine monochloride, iodine dichloride, iodine trichloride, iodine tetrachloride, bromine chloride, iodine monobromide, iodine dibromide, or mixture thereof.

37. (currently amended) The composition of claim 34 32, wherein the peroxycarboxylic acid comprises peroxyacetic acid, peroxyformic acid, peroxyoctanoic acid, ester peroxycarboxylic acid, salt thereof, or mixture thereof.

38. (currently amended) The composition of claim 34 32, wherein the organic acidifying agent comprises aliphatic carboxylic acid, aromatic carboxylic acid, or mixture thereof.

BEST AVAILABLE COPY

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

39. (original) The composition of claim 38, wherein the carboxylic acid comprises formic acid, acetic acid, propionic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, benzoic acid, salicylic acid, salt thereof, or mixture thereof.

40. (canceled)

41. (currently amended) The composition of claim ~~40~~ 32, wherein the antimicrobial solvent comprises dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

42. (original) The composition of claim 32, wherein the diluting solvent comprises water and the antimicrobial solvent has a water solubility less than about 10% by weight.

43. (original) The composition of claim 42, wherein the antimicrobial solvent has a water solubility less than about 5% by weight.

44. (original) The composition of claim 43, wherein the antimicrobial solvent has a water solubility less than about 2% by weight.

45. (original) The composition of claim 42, comprising water and at least about 10 weight % antimicrobial solvent.

46. (original) The composition of claim 42, comprising water and at least about 50 weight % antimicrobial solvent.

47. (original) The composition of claim 32, comprising water and about 75 weight % to about 95 weight % antimicrobial solvent.

48. (currently amended) The composition of claim 32, wherein the composition is ~~substantially~~ cosolvent-free.

BEST AVAILABLE COPY

Appl. No. 10/086,765
Amendment dated January 20, 2004
Reply to Office Action of December 18, 2003

49. (currently amended) The composition of claim 32, wherein the composition is ~~substantially~~ surfactant-free.

50. (New) An antimicrobial concentrate and instructions for mixing the concentrate with water;

the concentrate comprising antimicrobial solvent and peroxyoctanoic acid;

the amounts of antimicrobial solvent and peroxyoctanoic acid in the concentrate being sufficient so that when the concentrate is mixed with water according to the instructions the resulting mixture will provide greater than a 1-log order reduction in population of bacteria or spores of *Bacillus cereus* within 10 seconds at 60° C.

51. (New) The concentrate of claim 50, further comprising organic acidifying agent.

52. (New) The concentrate of claim 51, wherein the organic acidifying agent comprises aliphatic carboxylic acid, aromatic carboxylic acid, or mixture thereof.

53. (New) The concentrate of claim 52, wherein the organic acidifying agent comprises formic acid, acetic acid, propionic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, benzoic acid, salicylic acid, salt thereof, or mixture thereof.

54. (New) The concentrate of claim 53, wherein the organic acidifying agent comprises octanoic acid.

55. (New) The composition of claim 50, wherein the antimicrobial solvent comprises benzyl alcohol, ethylene glycol phenyl ether, propylene glycol phenyl ether, propylene carbonate, phenoxyethanol, dimethyl malonate, dimethyl succinate, diethyl succinate, dibutyl succinate, dimethyl glutarate, diethyl glutarate, dibutyl glutarate, dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

56. (New) The concentrate of claim 55, wherein the antimicrobial solvent comprises dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

57. (New) The concentrate of claim 51, wherein the antimicrobial solvent comprises octanoic acid.

58. (New) The concentrate of claim 21, further comprising diluting solvent.

59. (New) An antimicrobial composition comprising diluting solvent, antimicrobial solvent, and peroxyoctanoic acid;

wherein the antimicrobial solvent and antimicrobial agent are at concentration effective to provide greater than a 1-log order reduction in the population of bacteria or spores of *Bacillus cereus* within 10 seconds at 60° C.

60. (New) The composition of claim 59, wherein the diluting solvent comprises water.

61. (New) The composition of claim 59, further comprising organic acidifying agent.

62. (New) The composition of claim 61, wherein the organic acidifying agent comprises aliphatic carboxylic acid, aromatic carboxylic acid, or mixture thereof.

63. (New) The composition of claim 62, wherein the organic acidifying agent comprises formic acid, acetic acid, propionic acid, heptanoic acid, octanoic acid, nonanoic acid, decanoic acid, benzoic acid, salicylic acid, salt thereof, or mixture thereof.

64. (New) The composition of claim 63, wherein the organic acidifying agent comprises octanoic acid.

Appl. No. 10/086,765

Amendment dated January 20, 2004

Reply to Office Action of December 18, 2003

65. (New) The composition of claim 59, wherein the antimicrobial solvent comprises benzyl alcohol, ethylene glycol phenyl ether, propylene glycol phenyl ether, propylene carbonate, phenoxyethanol, dimethyl malonate, dimethyl succinate, diethyl succinate, dibutyl succinate, dimethyl glutarate, diethyl glutarate, dibutyl glutarate, dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

66. (New) The composition of claim 65, wherein the antimicrobial solvent comprises dimethyl adipate, diethyl adipate, dibutyl adipate, dimethyl pimelate, diethyl pimelate, dimethyl suberate, diethyl suberate, or mixture thereof.

67. (New) The composition of claim 59, wherein the antimicrobial solvent comprises octanoic acid.

68. (New) The composition of claim 59, comprising water and at least about 10 weight % antimicrobial solvent.

69. (New) The composition of claim 68, comprising water and at least about 50 weight % antimicrobial solvent.

70. (New) The composition of claim 69, comprising water and about 75 weight % to about 95 weight % antimicrobial solvent.

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